Innovative Undergraduate Teaching Grant Proposal

<u>Undergraduate Teaching Challenge in Psychology</u>

One of the Principles for Quality Undergraduate Education in Psychology (APA, 2013) iterates the importance of promoting students understanding that psychology is a science. Arming students with such an understanding early in their education can help them in differentiating theories, research, and applications which have a scientific foundation and those which are not much more than a frivolous pseudoscience. But promoting an understanding of the scientific foundation of psychology is a challenge given that students and the general population hold deep and persistent doubts that the discipline is scientific (Amsel, Baird, & Ashley, 2011; Benjamin, 1986; Friedrich, 1996; Hughes, Lyddy, & Lambe, 2013; Lillenfeld, 2012; Stanovich, 2013; Taylor & Kowalski, 2013) Instructors of psychology courses bear the challenge of helping students overcome misconceptions about the scientific foundation of the discipline and its applications (Brewer, Hopkins, Kimble, Matlin, McCann et al., 1993). Shattering the myths that students hold about psychology and its scientific foundation has proven difficult to accomplish, as recent assessments of General Education courses in Psychology attest (Amsel, Baird, & Ashley, 2013).

<u>Innovative Teaching Project to Address this Challenge</u>

To assist students in acquiring an understanding of the scientific foundation of the discipline, the project team proposes the design, implementation, and assessment of a series of interconnected Canvas modules to promote students' appreciation of psychology as a science. These modules will engage students in reflecting upon, writing about, critically evaluating, and thoughtfully applying psychological research. It is important to note that the Canvas modules are not a laboratory component added to the class, but an experience designed to augment and deeply engage students' understanding of the standard class presentation of the scientific foundation of the

discipline. While a lab teaches specific research skills, these modules would highlight the epistemological legitimacy of the research process in psychology, as well as the ethics, scientific attitudes, cognitive skills, and basic statistical/design knowledge necessary to be critical consumers and nascent producers of psychological knowledge. An example of a potential module would be an activity that teaches students to differentiate between psychological interventions that have an empirical foundation versus those that are pseudo-scientific. In this activity, students would watch a brief lecture that describes how to differentiate between empirically-based interventions and pseudo-science. Students would then review specific interventions (i.e. Baby Mozart vs. Sign Language for Babies), and indicate whether they are legitimately scientific based (Sign Language for Babies is scientifically legitimate but Baby Mozart is not) on the indicators they were taught earlier in the module (i.e. source, methodology, claims, etc.).

Students will not only be participants in research, they will also review, design, collect, analyze and apply research data, albeit in a limited way. The design of the modules will ensure student activities over the course of the semester which would make full use of the pedagogical strengths of Canvas, including discussions, journaling, collaboration tools, peer-grading, and access to external tools such as SPSS and Google software (spreadsheet). The expectation is that the modules will be largely self-contained, meaning that they will impose minimal additional grading responsibilities on the part of a faculty member,

The psychology department has committed to use the modules in General Education courses such as Introduction to Psychology (PSYCH 1010) and Interpersonal Relationships (PSYCH 2000), that enroll approximately 3,000 undergraduate students each year. In addition, the modules may be utilized by many more students enrolled in classes making use of psychological research (e.g., neuroscience, linguistics, women's studies, professional sales, and economics) as well as students

engaged in practicum or community research as part of their CCEL activities. The proposed project is sustainable given that once created, the modules can be used for any class in psychology or related disciplines over several years. The reoccurring process of assessing the Gen Ed and other classes in which the modules are used can then be used to continually evaluate and refine the modules every few years.

<u>Design and Assessment of the Project</u>

The central goal of the project is ensuring that Gen Ed Psychology students are *research prepared*. That is, students will have a rudimentary grasp of the process and application of research in the field of Psychology. This standard will be defined by the team, and assessments will be developed to test it, employing a backward design principle as used in developing TICE courses. Relevant student learning outcomes (SLOs) and the means of their assessment will be developed first by the project team and only then will instructional materials will be created to teach to the SLOs to ensure that the pedagogical content, assessments, and SLO are synchronized. The team will have the advantage of using the SLOs already existing for the Psy 1010 and Psy 2000 (for details see the 2013-1014 assessment report, Amsel et al., 2013).

<u>Process and Timeline</u>

The grant would be used to fund three phases of this project to cover the design, implementation, and assessment of the modules. During spring semester 2014, team members (see definitions below) will attend a series of presentations by educational specialists and scholars who can provide an understanding of the conceptual, curricular and pedagogical issues involved in promoting a scientific understanding of the discipline. Scholars and specialists from inside and outside the university will be invited, and the presentations will be open to all interested in the teaching and learning of scientific reasoning. During the summer (2014), project faculty will build

on this information to first define research preparedness and related SLO and assessment, and then to design and create the content and format of the modules. The implementation will be carried out by a subset of the team (PIs) but with regular consultation with other team members (TAs). The final phase of this project would take place during fall semester (2014), when the team members will test the modules in several classes, including face-to-face, online, and hybrid classes. Analyses of student satisfaction and learning outcomes will also be undertaken after the implementation of the modules during the fall semester.

Potential Benefit for Students

A large number of Gen Ed Psychology students (3,000 + per year) will benefit from these modules. Even a rudimentary understanding of psychological research will increase the likelihood that students will be successful by more deeply processing the scientific content in Introductory Psychology. Additionally, students in other lower- and upper-division courses inside the discipline and out will benefit by being exposed in an engaging way to the science of the discipline. Students with a rudimentary understanding of the science of psychology will expand their opportunity for individualized instruction opportunities with faculty. These opportunities to work with faculty on research in the laboratory or in applied settings (e.g., practicum, CCEL) would strengthen a student's application for a job and/or graduate school.

Potential Benefit for Faculty

As noted previously, instructors of Psychology have agreed to use the modules, as the original idea emerged from a department-wide discussion of data addressing the science-based SLOs in Psychology Gen Ed classes (Amsel et al., 2013). These modules will assist faculty in this task without requiring additional classroom teaching and with minimal additional grading. Another benefit to faculty teaching non-Gen Ed Psychology classes is that these modules will be modifiable,

in that elements of the module can be added or deleted based on the curricular and pedagogical demands of their particular class. For example, faculty in other classes may use the module as a refresher for students whose grasp of the scientific foundation of the discipline is shaky. Finally, faculty outside the discipline may use some aspects of the modules for classes which highlight psychology-related theory, research, or applications.

Personnel and Budget

Two principle investigators (PIs) and 7 technical advisors (TAs) will form the team working on the project. The team members and their unique contributions to the project are identified below. The PIs will be responsible for designing, implementing and making the product ready for testing in Fall 2014. Each will be given a summer stipend ($3,000, total $6,000, which can be taken as course reductions) to work through the design and implementation of the software. The TAs will attend the spring meetings, serve as consultants over the summer, and testers in the Fall. For this they will receive a stipend ($750, total $5,250). The spring meetings will involve inviting approximately 5 presenters who will be given an honorarium of $150 ($750 total). Additional costs of departmental supplies are estimated to be $100 per semester (total $300). **The total budget is $12,300.**

Faculty	Affiliation	Skills and Background	Role
Eric Amsel	Psychology	TICE, Canvas, scholarship of teaching	PI
Aaron Ashley	Psychology & Linguistics	Canvas, Cognitive and learning sciences Connection to Linguistics program	TA
RC Callahan	WSU Online	Canvas, Instructional Designer	TA
Lauren Fowler	Psychology & Neuroscience	TICE, Canvas, Extensive Psy. 1010 f2f and online experience. Connection to the Neuroscience program	TA
Azenett Garza	Psychology & CCEL	Canvas, Training community involved students	TA

Joe Horvat	Psychology	Extensive PSY 1010 f2f experience.	TA
Shannon McGillivary	Psychology	Cognitive and learning sciences.	TA
Maria Parrilla DeKokal	Psychology & Women's Study	Extensive PSY 1010 f2f and online experience. Connection to Women's Study program	TA
Melinda Russell-Stamp	Psychology	Extensive PSY 1010 f2f experience to diverse student groups (Davis, night, etc.)	PI

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